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EXAMINER	
PATEL, ASHOKKUMAR B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,045	NYMAN ET AL.	
	Examiner	Art Unit	
	ASHOK B. PATEL	2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are subject to examination.

Response to Arguments

2. Applicant's arguments filed 08/18/2008 have been fully considered but they are not persuasive for the following reasons:

Applicant's argument:

"The rejection is respectfully *traversed* because Lorrain does not teach or suggest the claimed filtering technique for an access switching router that features setting the router's address as a source layer2 address for data packets sent via the access switching muter in a network from a network connected source device belonging to a virtual local area network to a sought destination device, as claimed."

"However, it is respectfully submitted that Lorrain's router R does not set its own router's address as a source layer2 address for data packets being sent to target T, but instead sets the router's address of R2 (see Figure 8) as a source layer2 address for data packets being sent to the target T through the token ring network N2."

Examiner's response:

Lorrain teaches setting the router's address as a source layer2 address for data packets sent via the access switching muter in a network from a network connected source device belonging to a virtual local area network to a sought destination device at col. 7, line 26-38, "Accordingly, the layer 2 field is filled up, i.e. the destination MAC address field is made to include RMAC address, the source MAC address field shall include SMAC address and the RIF field remains empty for the moment. The

destination layer 3 field shall include IP address of target (T), i.e. TIP. For next hop toward final target through N2, destination and source MAC addresses fields shall be made to include TMAC address and RMAC2 address, respectively, once R has determined through its IP routing table that the target T is located on the network N2, which is not on the same interface as N1. R will ARP TIP over N2 to get TMAC and will cache it. may then forward the packet to T through N2."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Lorrain et al. (hereinafter Lorrain) (US 6, 631, 137 B1)

Referring to claim 1,

Lorrain teaches a filter for an open system interconnection layer2 traffic separation in at least one Access Switching Router (42,44) in a network (40), having

ports in the at least one router (42,44) configured to the same virtual local area network, said filter filtering data packet traffic to said ports (col. 2, line 14-33, col. 8, line 22-25, "Represented in FIG. 3 is R's ARP response format mentioning S as destination, R as source with its bridge MAC address and including the RIF information specifying the concerned LAN and exit port."), characterized in that the filter comprises:

means for intercepting layer2 traffic from a network connected source device (HostA, HostB) for a Media Access Control address belonging to said virtual local area network, and determining if the traffic is permitted to be forwarded to other ports (col. 6, line 59-col. 7, line 8, "Another conventional tool used here and available in network operating protocols is the Address Resolution Protocol (ARP) which is a broadcast at layer 2 and which helps obtaining a LAN address corresponding to an IP address when this IP target is on the same LAN or bridged LAN as the IP source. This information is stored in ARP tables. The ARP protocol is performed used by broadcasting ARP requests. Every host listens to ARP requests and upon recognizing its own IP address, responds with its MAC address. The ARP requester saves this information in its ARP table. In other words, ARP is the protocol used to dynamically bind a high level IP address to a low level physical address. Normally, ARP is only across a single physical network. But a router (R) receiving an ARP message may operate in Proxy ARP mode and answer an ARP request on behalf of the ARP target. In this application, as developed hereunder, R adds the target's subnet in its Proxy ARP support. ", Col. 7, line 16-23, "Referring again to FIG. 1, assume the source (S) host needs to send an IP packet to the target host (T). To that end, S uses its IP routing table which designates

the next hop to reach T. Assuming R has been designated as the default router for S, then through its IP routing table S, determines that the router R, reached through Token ring network N1, is the next hop to reach T. If R's MAC is unknown, an ARP will be used to resolve it and store it in S's ARP cache. S encapsulates the IP packet in a conventional 802.5/Token ring header and sends it over N1.");

means for intercepting Address Resolution Protocol broadcasts in such traffic, responding to said broadcast to said source device (HostA, HostB) regardless if a destination device layer2 domain is the same as source device layer2 domain, said source device (HostA, HostB) thus determining that the broadcast has acknowledged the layer2 address of a sought destination device (HostC, HostD), whereby the source device (HostA, HostB) transmits data packets to the destination device (HostC, HostD), said at least one router receiving said transmitted data packets (col. 7, line 65-col. 8, line 21, "R should configure in Proxy ARP for the considered subnet including T, i.e. be ready to answer any ARP for any IP address on N2.

Thus, when S needs to send a second packet to T, S's routing table will now indicate there is a direct route to T, so S will pass the packet to its interface on N1 with T's IP address being next hop. The network handler in S will perform a look up for that entry in its ARP table. If the address is not found, which is the case the first time a packet is to be forwarded from S to T, S broadcasts an ARP request for T's IP address (on an All Route Broadcast), that R will respond with a bridge MAC address. In other words, R provides for the whole subnet including T a single MAC address, i.e. RMAC address. T's MAC address is thus not reported upward as was the case with the above

mentioned copending European Application. The whole subnet is reported instead. This means that for a different target T1 attached to same subnet as T (see FIG. 1) R shall respond as well since R is now configured as Proxy for all packets whose IP address matches with the subnet. No transparent bridging table is thus needed, but R has to add information in the RIF field to indicate on which LAN and which port the packet should be oriented. The overall result simulates a bridging. ");

means for determining an egress port to said sought destination device (HostC, HostD), (col. 8, line 38-44, "Accordingly, the new packet for T is sent by S to T's IP address, with RMAC address as destination, over N1. R bridging function recognizing RMAC address and RIF data and using its ARP table for router exit port shall find the correct T's MAC address, substitute T's MAC address to the destination MAC address header field content in the considered packet and forward the packet into N2. ");

means for determining the layer2 address of said sought destination device (HostC, HostD) (col. 8, line 38-44, "Accordingly, the new packet for T is sent by S to T's IP address, with RMAC address as destination, over N1. R bridging function recognizing RMAC address and RIF data and using its ARP table for router exit port shall find the correct T's MAC address, substitute T's MAC address to the destination MAC address header field content in the considered packet and forward the packet into N2. ");

means for adjusting the layer2 header from said received data packet by setting the source layer2 address to, said at least one router's source address for the data

packets, and by determining the layer2 address of the sought destination device (HostC, HostD) and setting the destination layer2 address to that of the sought destination device (HostC, HostD) and transmitting the data packet to the sought destination device (HostC, HostD) (col. 9, line 5-60, "Also, the present approach may be extended to Ethernet LAN networks but since the RIF field would not be available in the frame format to be used, the number of bridge MAC addresses required would be equivalent to the number of exit ports on R.

Extension to a global network including both Token ring LAN sections and Ethernet LAN sections would require only the insertion of conventional so-called translational bridging facilities in between.

If S sends a directed broadcast to T's subnet, it will be broadcasted over N1 since S thinks that T is on N1. But R bridging function will recognize MAC level broadcast and pass up the packets to upper layer for routing instead of bridging. The router should drop the packet as it is a MAC level broadcast, but it recognizes the target subnet is actually bridged, so it routes the packet using normal IP routing.

The basic process of this invention as described above has been summarized in the flowchart of FIG. 5 which enables a man skilled in the art to implement the invention without any additional inventive effort being required. First step: first packet to be sent from S to T S reads IP routing table. Since no path was already set-up to route the packet, S selects the default router R. S encapsulates 1st packet with a 802.5/Token ring header: layer 2: *destination MAC address=RMAC *source MAC address=SMAC *RIF field=RIF to R layer 3: *TIP address (see FIG. 2) Second step: R receives first

packet R reads IP table for best match with TIP address.fwdarw."subnet" including T is identified. R sends ICMP redirect over N1 as limited broadcast: all hosts(including S) add "subnet" as direct route toward T on their interface to N1. R adds T subnet in Proxy ARP support Third step: second packet to be sent S passes packet to its N1 interface S broadcasts, on N1, ARP request for T's IP address R responds with RMAC address and RIF data leading to N2, =R configures in Proxy ARP for the "subnet" (see FIG. 3) Fourth step: second packet is sent over N1 to TIP address with RMAC address as destination and with the RIF data, R bridging function receiving 2nd packet with RMAC address, identifies RIF data, reads ARP table for exit port (or runs ARP protocol to identify TMAC address and store it) substitutes T's MAC address into the second packet header destination MAC address field R forwards 2nd packet over N2.

whereby a virtual LAN has been set with R being bridged for the considered target subnet."); and

thus simulating that if the source device (HostA, HostB) and sought destination device (HostC, HostD) is in the same layer2 domain, the router layer2 address is the actual destination address both for the source and destination device, or simulating that if the source device and sought destination device are not in the same layer2 domain but in the same layer3 subnet, the router layer2 address is the actual destination layer2 address for the source to the destination (Note: Examiner considers this limitation just as the effect of having the limitations above.).

Referring to claim 2,

Lorrain teaches a filter according to claim 1, characterized in that a port that resides in a sub router (42,44) is provided with said at least one router (42,44) layer2 address when addressing the sought destination device (HostC) (col. 9, line 14-21).

Referring to claim 3,

Lorrain teaches a filter according to claim 1, characterized in at least one router (42,44) is investigating the source and/or destination address to determine the best exit port for the packet, to determine if the packet is in profile for rate-limiting, or to do other filtering based on information in the open system interconnection layer3 and higher protocol layers (col. 9, line 14-21).

Referring to claim 4,

Lorrain teaches a filter according to claim 1, characterized in that the at least one router (42,44) is a combination of a layer2 switch and a layer3 router, combining the capabilities of layer2 switching with advanced packet control and forwarding decisions in a layer3 router (col. 9, line 14-21).

Referring to claim 5,

Lorrain teaches a filter according to claim I, characterized in that the filter provides for it is providing the use of one IP subnet, spreading it over several premises and a multiple of Access Switching Router and the same subnet in multiple layer2 domains, whereby it is covering more customers (Figs. 6 and 8).

Referring to claim 6,

Lorrain teaches a filter according to claim 5, characterized in that it is providing a customer having multiple computers to receive more addresses ((Note: Examiner considers this limitation just as the effect of having the limitations above.).

Referring to claim 7,

Claim 7 is a claim to a method for a filter of claim 1. Therefore claim 7 is rejected for the reasons set forth for claim 1.

Referring to claim 8,

Claim 8 is a claim to a method for a filter of claim 2. Therefore claim 8 is rejected for the reasons set forth for claim 2.

Referring to claim 9,

Claim 9 is a claim to a method for a filter of claim 3. Therefore claim 9 is rejected for the reasons set forth for claim 3.

Referring to claim 10,

Claim 10 is a claim to a method for a filter of claim 4. Therefore claim 10 is rejected for the reasons set forth for claim 4.

Referring to claim 11,

Claim 11 is a claim to a method for a filter of claim 5. Therefore claim 11 is rejected for the reasons set forth for claim 5.

Referring to claim 12,

Claim 12 is a claim to a method for a filter of claim 6. Therefore claim 12 is rejected for the reasons set forth for claim 6.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHOK B. PATEL whose telephone number is (571)272-3972. The examiner can normally be reached on 6:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ashok B. Patel/

Primary Examiner, Art Unit 2456